

- d) determining whether the compound modifies the copy number.
52. (New) The method of claim 51, wherein the system includes cells, and the N-boxes are foreign to the cells.
53. (New) The method of claim 52, wherein the N-boxes are viral N-boxes.
54. (New) The method of claims 51, wherein the assay identifies whether the compound modifies the copy number of active N-boxes.
55. (New) The method of claims 51, wherein the assay identifies whether the compound modifies the copy number of N-boxes bound by a transcription complex.
56. (New) The methods of claims 51, wherein the disease is cancer.
57. (New) The methods of claims 51, wherein the disease is atherosclerosis.
58. (New) The methods of claims 51, wherein the disease is osteoarthritis.
59. (New) The methods of claims 51, wherein the disease is obesity.
60. (New) A method for evaluating the ability of a compound to affect gene expression, the method comprising the steps of:
- a) selecting a compound of interest;
- b) combining the compound with a system, wherein the system includes a known copy number of N-boxes;
- c) assaying the copy number of the N-boxes in the system after the combination; and
- d) determining whether the compound modifies the copy number.
61. (New) The method of claim 60, wherein the system includes cells, and the N-boxes are foreign to the cells.
63. (New) The method of claim 61, wherein the N-boxes are viral N-boxes.
63. (New) The methods of claims 60, wherein the assay identifies whether the compound modifies the copy number of active N-boxes in the system.
64. (New) The methods of claims 60, wherein the assay identifies whether the compound modifies the copy number of N-boxes bound by a transcription complex.